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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,315	03/10/2004	Daniel ManHung Wong	OR03-15501	1742

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ORACLE INTERNATIONAL CORPORATION  
c/o PARK, VAUGHAN & FLEMING LLP  
2820 FIFTH STREET  
DAVIS, CA 95618-7759

EXAMINER
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RAAB, CHRISTOPHER J

ART UNIT	PAPER NUMBER
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2166

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/800,315

**Applicant(s)**

WONG, DANIEL MANHUNG

**Examiner**

Christopher J. Raab

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9 November 2006 and 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

01. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on **11/09/06** and **12/05/06** have been entered.

### *Claim Rejections – 35 USC § 112*

02. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention

**Claims 7, 14, 21** recite the limitation “if the signature generates a mismatch alert”. There is insufficient antecedent basis for this limitation in the claim. It is believed claim 7 was intended to depend on claim 2, claim 14 was intended to depend on claim 9, and claim 21 was intended to depend on claim 16, and has been treated as such for the remainder of this Office Action. Appropriate correction is required.

05. **Claims 1, 6 – 8, 13 – 15, 20 – 21** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims lack a useful, concrete, and tangible result within the meaning of 35 USC 101.

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The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus, or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process claim must set forth a practical application of that 101 judicial exception to produce a real-world result. Providing a benefit to the recipient if the recipient has performed the activity does not produce a real-world result and is clearly just an abstract idea. Therefore the claims do not provide a tangible result.

The tangible requirement for claims 1, 8, and 15 is not met because of the outcome of the declared "if" statement. In the event that a signature is not located in a signature cache, there is no action leading to a tangible result. There is only action leading to a tangible result if a signature is located in a signature cache. Accordingly, these claims do not meet the tangible requirement and are non-statutory under 35 U.S.C. 101.

However, claims 2, 9, and 16 fix the deficiency of claims 1, 8, and 15 (respectively). If independent claims 1, 8, and 15 were amended to include dependent claims 2, 9, and 16 (respectively), the tangible requirement under 35 U.S.C. 101 would be met. Coincidentally, this amendment would also overcome the 35 U.S.C. 112 rejections.

#### ***Claim Rejections - 35 USC § 103***

06. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

07. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

08. **Claims 1 – 3, 5 – 10, 12 – 17, and 19 – 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over ASP Alliance (Introduction to Validating User Input in Web Forms, December 29, 2003) in view of PBDR (SQL String Validation, June 24, 2003).

Consider **claim 1**, ASP Alliance clearly shows a method for using validation controls (read as query signatures to provide security for a database), comprising:

when the user's input is being processed (for example, when the form is submitted) (read as receiving the query at the database) (page 1 lines 20-21), the page framework passes the user's entry to the appropriate validation control or controls (read as parsing the query at the database to determine a signature for the query, wherein the signature specifies a structure based on operations for the query and is independent of the value of literals in the query) (page 1 lines 21-22). The validation controls test the user's input and set a property to indicate whether the entry passed the test (read as determining if the signature is located in a signature cache, which contains signature for valid queries) (page 1 lines 22-23). And would test the state of the validation controls

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before updating a data record with information entered by the user. If you detect an invalid state, you bypass the update (read as if so, processing the query) (page 1 lines 27-29). However, ASP Alliance does not specifically disclose that the signature is an SQL signature.

PBDR clearly shows that a query signature coded in ASP can be done through an SQL string (read as the signature is constructed from structured query language [SQL] keywords of the query) (page 1 lines 1 – 4, 33 – 34).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the SQL string validation method taught by PBDR into the query string validation method taught by ASP Alliance for the purpose of allowing string validation procedures to work for multiple operating environments.

Consider **claim 2**, and **as applied to claim 1 above**, ASP Alliance clearly shows a method such that if any validation checks fail (read as if the signature is not in the signature cache) (page 1 line 29); you skip all your own processing (read as the method further comprises triggering a mismatch alert) (page 1 lines 29-30).

Consider **claim 3**, and **as applied to claim 2 above**, ASP Alliance clearly shows a method such that validation controls that detected errors then produce an error message that appears on the page (read as the mismatch alert throws an error) (page 1 lines 30-31).

Consider **claim 5**, and **as applied to claim 2 above**, ASP Alliance clearly shows a method such that if any validation checks fail, you skip all your own processing and the page is returned to the user (read as the mismatch alert is sent to a requesting

applications, thereby allowing the requesting application to take action) (page 1 lines 29-30).

Consider **claim 6**, and **as applied to claim 1 above**, ASP Alliance clearly shows a method such that when the user submits a form to the server, the validation controls are invoked to review the user's input, control by control (read as the signature cache is initialized by recording signatures of valid transactions during a system initialization operation) (page 2 lines 36-37) .

Consider **claim 7**, and **as applied to claim 2 above**, ASP Alliance clearly shows a method such that if any validation checks fail (read as the signatures generates a mismatch alert) (page 1 line 19) you enable validation of user input by adding validation controls to your form as you would other server controls (read as if the query is a valid query, the method further comprises allowing a database administrator to add the signature to the signature cache) (page 1 line 16-17).

Consider **claim 8**, ASP Alliance clearly shows a computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for using validation controls (read as query signatures to provide security for a database), comprising:

when the user's input is being processed (for example, when the form is submitted) (read as receiving the query at the database) (page 1 lines 20-21), the page framework passes the user's entry to the appropriate validation control or controls (read as parsing the query at the database to determine a signature for the query, wherein the signature specifies a structure based on operations for the query and is independent of

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the value of literals in the query) (page 1 lines 21-22). The validation controls test the user's input and set a property to indicate whether the entry passed the test (read as determining if the signature is located in a signature cache, which contains signature for valid queries) (page 1 lines 22-23). And would test the state of the validation controls before updating a data record with information entered by the user. If you detect an invalid state, you bypass the update (read as if so, processing the query) (page 1 lines 27-29). However, ASP Alliance does not specifically disclose that the signature is an SQL signature.

PBDR clearly shows that a query signature coded in ASP can be done through an SQL string (read as the signature is constructed from structured query language [SQL] keywords of the query) (page 1 lines 1 – 4, 33 – 34):

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the SQL string validation computer-readable medium taught by PBDR into the query string validation computer-readable medium taught by ASP Alliance for the purpose of allowing string validation procedures to work for multiple operating environments.

Consider **claim 9**, and **as applied to claim 8 above**, ASP Alliance clearly shows a computer-readable storage medium such that if any validation checks fail (read as if the signature is not in the signature cache) (page 1 line 29), you skip all your own processing (read as the method further comprises triggering a mismatch alert) (page 1 lines 29-30).



Consider **claim 10**, and **as applied to claim 9 above**, ASP Alliance clearly shows a computer-readable storage medium such that validation controls that detected errors then produce an error message that appears on the page (read as the mismatch alert throws an error) (page 1 lines 30-31).

Consider **claim 12**, and **as applied to claim 9 above**, ASP Alliance clearly shows a computer-readable storage medium such that if any validation checks fail, you skip all your own processing and the page is returned to the user (read as the mismatch alert is sent to a requesting applications, thereby allowing the requesting application to take action) (page 1 lines 29-30).

Consider **claim 13**, and **as applied to claim 8 above**, ASP Alliance clearly shows a computer-readable storage medium such that when the user submits a form to the server, the validation controls are invoked to review the user's input, control by control (read as the signature cache is initialized by recording signatures of valid transactions during a system initialization operation) (page 2 lines 36-37).

Consider **claim 14**, and **as applied to claim 9 above**, ASP Alliance clearly shows a computer-readable storage medium such that if any validation checks fail (read as the signatures generates a mismatch alert) (page 1 line 29) you enable validation of user input by adding validation controls to your form as you would other server controls (read as if the query is a valid query, the method further comprises allowing a database administrator to add the signature to the signature cache) (page 1 lines 16-17).

Consider **claim 15**, ASP Alliance clearly shows an apparatus for using validation controls (read as query signatures to provide security for a database), comprising:

when the user's input is being processed (for example, when the form is submitted) (read as receiving the query at the database) (page 1 lines 20-21), the page framework passes the user's entry to the appropriate validation control or controls (read as parsing the query at the database to determine a signature for the query, wherein the signature specifies a structure based on operations for the query and is independent of the value of literals in the query) (page 1 lines 21-22). The validation controls test the user's input and set a property to indicate whether the entry passed the test (read as determining if the signature is located in a signature cache, which contains signature for valid queries) (page 1 lines 22-23). And would test the state of the validation controls before updating a data record with information entered by the user. If you detect an invalid state, you bypass the update (read as if so, processing the query) (page 1 lines 27-29). However, ASP Alliance does not specifically disclose that the signature is an SQL signature.

PBDR clearly shows that a query signature coded in ASP can be done through an SQL string (read as the signature is constructed from structured query language [SQL] keywords of the query) (page 1 lines 1 – 4, 33 – 34).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the SQL string validation apparatus taught by PBDR into the query string validation apparatus taught by ASP Alliance for the purpose of allowing string validation procedures to work for multiple operating environments.

Consider **claim 16**, and **as applied to claim 15 above**, ASP Alliance clearly shows an apparatus such that if any validation checks fail (read as if the signature is not

in the signature cache) (page 1 line 29), you skip all your own processing (read as the method further comprises triggering a mismatch alert) (page 1 lines 29-30).

Consider **claim 17**, and **as applied to claim 16 above**, ASP Alliance clearly shows an apparatus such that validation controls that detected errors then produce an error message that appears on the page (read as the mismatch alert throws an error) (page 1 lines 30-31).

Consider **claim 19**, and **as applied to claim 16 above**, ASP Alliance clearly shows an apparatus such that if any validation checks fail, you skip all your own processing and the page is returned to the user (read as the mismatch alert is sent to a requesting applications, thereby allowing the requesting application to take action) (page 1 lines 29-30).

Consider **claim 20**, and **as applied to claim 15 above**, ASP Alliance clearly shows an apparatus such that when the user submits a form to the server, the validation controls are invoked to review the user's input, control by control (read as the signature cache is initialized by recording signatures of valid transactions during a system initialization operation) (page 2 lines 36-37).

Consider **claim 21**, and **as applied to claim 16 above**, ASP Alliance clearly shows an apparatus such that if any validation checks fail (read as the signatures generates a mismatch alert) you enable validation of user input by adding validation controls to your form as you would other server controls (read as if the query is a valid query, the method further comprises allowing a database administrator to add the signature to the signature cache) (page 1, lines 29, 16-17).

09. **Claims 4, 11, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over ASP Alliance (Introduction to Validating User Input in Web Forms, December 29, 2003) in view of PBDR (SQL String Validation, June 24, 2003) in further view of The PHP Group (Error Handling and Logging Functions, November 27, 2003).

Consider **claim 4**, and **as applied to claim 1** above, ASP Alliance, as modified by PBDR, clearly show the claimed invention except for that a mismatch alert is sent to a database administrator.

The PHP Group clearly shows an example of using the error handling capabilities to define an error handling function, which logs the information into a file and e-mails the developer in case a critical error in logic happens (read as the mismatch alert is sent to a database administrator and the query is processed) (page 7 lines 5-6).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the error handling capability taught by The PHP Group into the method of using query signatures taught by ASP Alliance, as modified by PBDR, for the purpose of allowing an administrator to monitor errors being entered into the database.

Consider **claim 11**, and **as applied to claim 8** above, ASP Alliance, as modified by PBDR, clearly show the claimed invention except for that a mismatch alert is sent to a database administrator.

The PHP Group clearly shows an example of using the error handling capabilities to define an error handling function, which logs the information into a file and e-mails the

developer in case a critical error in logic happens (read as the mismatch alert is sent to a database administrator and the query is processed) (page 7 lines 5-6).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the error handling capability taught by The PHP Group into the use of query signatures taught by ASP Alliance, as modified by PBDR, for the purpose of allowing an administrator to monitor errors being entered into the database.

Consider **claim 18**, and **as applied to claim 15** above, ASP Alliance, as modified by PBDR, clearly show the claimed invention except for that a mismatch alert is sent to a database administrator.

The PHP Group clearly shows an example of using the error handling capabilities to define an error handling function, which logs the information into a file and e-mails the developer in case a critical error in logic happens (read as the mismatch alert is sent to a database administrator and the query is processed) (page 7 lines 5-6).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the error handling capability taught by The PHP Group into the use of query signatures taught by ASP Alliance, as modified by PBDR, for the purpose of allowing an administrator to monitor errors being entered into the database.

***Response To Arguments***

10. Applicant's arguments files on **11/09/06** have been fully considered, but they are not persuasive. The examiner respectfully traverses applicant's arguments.

Applicant argued that ASP "does not teach using signatures to detect structured query language (SQL) injection" and is "limited to web-applications". Examiner agrees that ASP is deficient in teaching this, however, as per the Office Action, PDBR discloses this. PDBR specifically teaches using SQL validation on a query, and that it can take place at a database.

Applicant argued that PDBR teaches validating a string to identify invalid characters and not "creating and validating a signature". Examiner agrees that PDBR is deficient in teaching this, however, as per the Office Action, ASP discloses this. ASP teaches using validation controls to provide for all types of standard validation, as well as custom-written validation. These validation controls are used to ensure that only appropriate queries are processed.

Applicant has amended claims 1, 8, and 15 to clarify that the invention parses the query at the database. However, ASP teaches that the validation controls can take place at the client and/or the server.

***Conclusion***

11. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450

Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Christopher Raab whose telephone number is (571) 270-1090. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Christian Chace can be reached on (571) 272-4190. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Christopher Raab

C.R./cr

January 10, 2007

KBP

CR